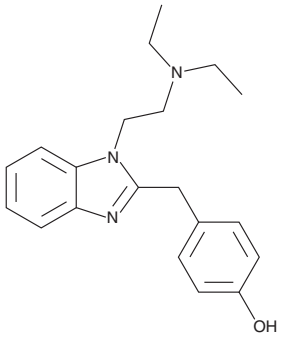
PRODUCT INFORMATION

3-Methylindole

Item No. 39231



CAS Registry No.: 110151-18-3
Formal Name: 3-methyl-1H-indole
Synonyms: NSC 122024, Skatole
MF: $C_{20}H_{25}N_3O$
FW: 323.4
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

3-Methylindole is supplied as a solid. A stock solution may be made by dissolving the 3-methylindole in the solvent of choice, which should be purged with an inert gas. 3-Methylindole is soluble (≥10 mg/ml) in DMSO and sparingly soluble (1-10 mg/ml) in ethanol

Description

3-Methylindole is an endogenous metabolite of tryptophan (Item No. 29600) and fecal odorant.[1,2] It is formed from tryptophan *via* an indole-3-acetate (Item No. 16954) intermediate by gut microbiota. 3-Methylindole (1 mM) induces transactivation of the aryl hydrocarbon receptor (AhR) in a reporter assay using Caco-2 cells.[3] It also induces p38 MAPK activation and apoptosis in Caco-2 cells when used at a concentration of 1 mM. Intraruminal administration of 3-methylindole (0.2 g/kg) induces respiratory distress in sheep.[4] It has been found in cigarette smoke.[5]

References

1. Jensen, M.T., Cox, R.P., and Jensen, B.B. 3-Methylindole (skatole) and indole production by mixed populations of pig fecal bacteria. *Appl. Environ. Microb.* **61(8),** 3180-3184 (1995).
2. Zhou, Y., Hallis, S.A., Vitko, T., *et al.* Identification, quantification and treatment of fecal odors released into the air at two wastewater treatment plants. *J. Environ. Manage.* **180,** 257-263 (2016).
3. Kurata, K., Kawahara, H., Nishimura, K., *et al.* Skatole regulates intestinal epithelial cellular functions through activating aryl hydrocarbon receptors and p38. *Biochem. Biophys. Res. Commun.* **510(4),** 649-655 (2019).
4. Popp, J.D., McAllister, T.A., Kastelic, J.P., *et al.* Effect of melengestrol acetate on development of 3-methylindole-induced pulmonary edema and emphysema in sheep. *Can. J. Vet. Res.* **62(4),** 268-274 (1998).
5. Hoffmann, D. and Rubin, J. Chemical studies on tobacco smoke I. The quantitative determination of indoles in cigarette smoke. *Beiträge. zur Tabakforschung* **3(6),** 409-414 (1966).

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